

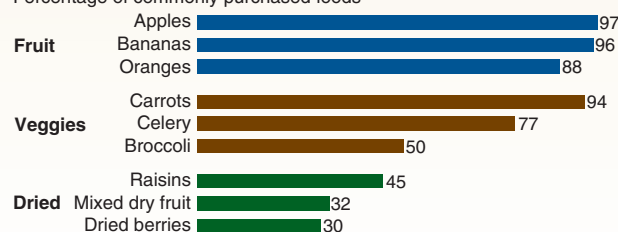
Free Fruit and Vegetable Snacks a Big Hit in Schools

Free fruit and vegetable snacks were provided to over 64,000 children in elementary and secondary schools as part of USDA's Fruit and Vegetable Pilot Program (FVPP). In an effort to promote fresh fruit and vegetable consumption among school children and encourage healthy dietary choices, 107 elementary and secondary schools in 5 States (Indiana, Iowa, Michigan, New Mexico, and Ohio) participated in the FVPP for the 2002-03 school year. Students in participating schools were from diverse ethnic backgrounds and family income levels. The program was popular among most students, parents, school teachers, principals, pilot managers, foodservice staff, and representatives of State child nutrition programs. School staff and students recognized health benefits from the pilot program such as increased consumption of fruits and vegetables, reduced consumption of less healthy food, fewer unhealthy snacks brought from home, and lessened risk of obesity.

An evaluation of the pilot program by ERS found that the program's flexibility was key to its success. Schools were allowed to choose when, where, and how to implement the program as well as

Apples, bananas, carrots, and raisins are on most schools' shopping lists

Percentage of commonly purchased foods



Source: Monthly administrative reports by pilot schools (Nov. and Dec. 2002).



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the mix and quantities of foods offered. Initial concerns, such as difficulties with implementation, disruptions of classes, and possible messiness of the foods, were largely addressed. For example, teachers coordinated classroom activities with snack times. Some elementary schools changed food delivery from hallways to the classroom to better monitor behavior. The offerings were also modified to suit student tastes, to conform to different delivery methods (for example, whole fruits in free vending machines), and to accommodate daily preparation time. To address time and labor concerns, some schools offered more prepackaged items, such as bagged baby carrots.

Although the pilot program had ample funding, many schools cited the requirement to use no more than 10 percent of their grant money for nonfood costs (for example, administrative costs, such as extra labor) as too restrictive. This cost ceiling was implemented to ensure that the bulk of the money would be spent on fruits and vegetables and could be adjusted if the program were to continue. Nationwide expansion of the pilot program would cost an estimated \$4.5 billion, based on an average annual cost of \$94 per student and a count of 48.2 million children in public schools in 2001. Costs would be higher if private schools also participated. Based on the popularity of the pilot program, it may be expanded to other States. *W*

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This finding is drawn from . . .

Evaluation of the USDA Fruit and Vegetable Pilot Program: Report to Congress, by Jean Buzby, Joanne Guthrie, and Linda Kantor, E-FAN-03-006, May 2003, available at:

www.ers.usda.gov/publications/efan03006/

Productivity Growth Lags in Food Manufacturing

Productivity in U.S. food manufacturing has been growing slower than productivity in U.S. manufacturing overall. Between 1975 and 1997, productivity growth for U.S. food manufacturers averaged 0.19 percent a year, versus 1.25 percent for all U.S. manufacturers. Labor's not to blame: output per labor hour in food manufacturing increased steadily over the 22-year period.

Food manufacturing industries ranged in annual productivity growth from -0.42 percent to 1.12 percent. In general, less processed food industries like meatpacking and fluid milk evidenced little productivity growth. These industries use relatively expensive raw materials to make highly standardized products. On the other hand, the beverage

and bakery industries—which rely more on labor, elaborate packaging, and sophisticated extrusion technologies—had productivity gains of around 1 percent each year.

Productivity is the rate of growth in output net of growth due to increases in inputs—materials, labor, capital (machinery and buildings), and energy. Food manufacturing is materials intensive, with raw and semiprocessed agricultural products and packaging materials constituting 60 percent or more of the value of output. Productivity measurements capture the effects of applying more efficient techniques, technologies, or equipment to the manufacturing process, such as a labor-saving technology that allows a food company to make more corn chips per shift with fewer employees. Often, increases in productivity result from investments in research and development (R&D) into new production methods that lead to efficiencies like the example above.

Competition Alters the U.S. Food Marketing Landscape

Competitive pressures abound in today's dynamic food marketing system. The U.S. food market is essentially saturated, dependent on a growing population as well as a declining share of consumer income spent on food. Food companies are using many strategies to compete for a larger share of the pie, including new ways of conducting business, mergers and acquisitions, overseas expansion, and state-of-the-art technology.

To meet consumer preferences and remain competitive, retailers have introduced a wide variety of new products. Nearly 10,000 new food and beverage products were introduced in 2002, with convenience foods and organic and natural foods leading the way. Also, the number of unique items (according to brand, package size, and type) stocked by supermarkets, such as Chef Boy-ar-dee Pizza Crust Mix & Sauce and Kahn's Honey Cure Deli Ham, rose from 13,000 in 1980 to 37,000 in 2001.

Competitive pressures to deliver specific products to meet consumer demand have changed the way the products move from farmers to consumers. Traditional food wholesalers who buy food from manufacturers and resell to retail food stores are losing ground. Manufacturers such as Coca Cola, Dreyers/Edy's Grand Ice Cream, and Frito-Lay deliver their products directly to retail stores and usually arrange them on the shelves. Albertsons, Ahold, and most other large retail chains buy products directly from manufacturers and transport them to retail locations through

their own distribution centers. Many food manufacturers/processors have chosen to contract directly with farmers to get the preferred quality and quantity of products.

Krogers, Safeway, and other traditional food retailers face mounting competition from nontraditional retailers, such as Wal-Mart supercenters, and the food-away-from-home sector.

In the 1990s, warehouse clubs and supercenters made their presence felt in a big way. By adding massive new stores, these companies increased their share of total food sales from 1.9 percent in 1990 to 8 percent in 2002. Food-away-from-home outlets, including McDonalds and Applebee's, now account for 46 percent of total food expenditures, up from 33 percent in 1970. In response to these competitive pressures, traditional retailers are turning to mergers and acquisitions to improve their ability to compete.

Manufacturers and distributors are experimenting with new technologies to replenish grocery shelves or out-of-stocks, to quickly serve and better target prospective customers, and to improve information flow and inventory management. For example, a system developed by FreedomPay, Inc., enables customers to make cashless purchases quickly and efficiently and to receive instantaneous loyalty rewards. A wand waved over a sensor at the checkout counter automatically deducts purchase amounts from consumers' accounts through FreedomPay's network. The system's



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hardware costs significantly less than debit card systems. USA Technologies is one of several companies equipping its vending machines with modems or sensors that relay instant inventory, sales, and other information to better target consumer preferences.

As an alternative to competition in a slowly growing domestic food market, many U.S. food companies are competing globally, choosing to expand by targeting customers (or investing in operations) outside the United States. The U.S. is the world's largest exporter of processed food. Domestic food companies, including Safeway, Costco, and Krispy Kreme Doughnuts, continue to expand operations overseas. **W**

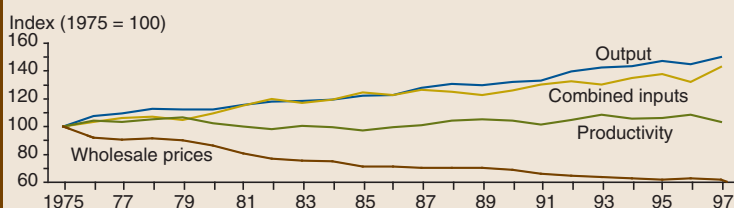
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This finding is drawn from . . .

The U.S. Food Marketing System, 2002: Competition, Coordination, and Technological Innovations into the 21st Century, by J. Michael Harris, Phil R. Kaufman, Steve W. Martinez (coordinator), and Charlene Price, AER-811, June 2002, available at www.ers.usda.gov/publications/aer811/

Food manufacturing's sluggish productivity growth may be due to modest R&D expenditures of late. According to ERS data, R&D spending by food manufacturers grew an average of 2.22 percent a year (adjusted for inflation) during 1975-97. Over the same period, the National Science Foundation estimates that private R&D expenditures by all U.S. manufacturing companies grew 5.78 percent yearly.

Productivity growth in U.S. food manufacturing grew slowly between 1975 and 1997



The efficiencies associated with higher productivity often lead to lower prices or smaller price increases. In the case of the food manufacturing industry, then, one might expect to find increasing prices. In fact, inflation-adjusted wholesale prices for processed foods declined an average 2.13-percent a year over 1975-97. Given this industry's low productivity growth and its materials-intensive nature, these lower prices more likely resulted from a decrease in the prices of raw agricultural products (3 percent yearly during 1975-97). **W**

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This finding is drawn from . . .

Food Manufacturing Productivity and Its Economic Implications, by Kuo S. Huang, TB-1905, USDA/ERS, October 2003, available at: www.ers.usda.gov/publications/tb1905/